Before the
**FEDERAL COMMUNICATIONS COMMISSION**
Washington, D.C. 20554

| | | |
|---|---|---|
| In the Matter of | ) | |
| | ) | |
| Amendment of Parts 2 and 90 of | ) | ET Docket No. 04-243 |
| The Commission's Rules | ) | FCC 04-156 |
| | ) | |
| Narrowbanding for Private Land | ) | |
| Mobile Radio Service | ) | |

## COMMENTS OF LOJACK CORPORATION

LoJack Corporation ("LoJack"), by its attorneys, hereby comments on the portion of the Notice of Proposed Rulemaking ("*NPRM*")[1] in the above-captioned proceeding addressing stolen vehicle recovery systems ("SVRS") operating on 173.075 MHz.

As the Commission has noted, there has been significant investment in SVRS by the general public and SVRS equipment has been deployed by numerous law enforcement agencies.[2] The Commission, therefore, asks whether it would be advisable to establish a narrowband transition plan for SVRS users at 173.075 MHz.[3] LoJack supports creating a plan for migrating SVRS systems from wideband operations to narrowband operations. In order to preserve the substantial utility of the existing SVRS for consumers and law enforcement agencies, LoJack proposes that such systems be required to convert to narrowband operations within fourteen years from the effective date of the Commission's final rule in this matter. This schedule will give LoJack the time it needs to develop, test and install narrowband systems and will give consumers

---

[1] *In the Matter of Amendment to Parts 2 and 90 of the Commission's Rules to Provide for Narrowband Private Land Mobile Radio Channels in the 150.05-150.8 MHz, 162-174 MHz, and 406.1-420 MHz Bands that are Allocated for Federal Government Use*, Notice of Proposed Rulemaking, ET Docket No. 04-243 (rel. July 6, 2004).
[2] *Id.* at ¶45.
[3] *Ibid.*

and law enforcement agencies a reasonable period of time, once LoJack is able to offer narrowband equipment, to continue to make use of the large installed base of wideband equipment.

## DISCUSSION

### I. Introduction

The LoJack SVRS, operated by state and local police departments, is the most extensive radio-based stolen vehicle recovery system in the world. Since the Commission authorized LoJack to operate on a regular basis in 1989, the LoJack system has been deployed nationally in twenty-two states and the District of Columbia. LoJack Vehicle Location Units ("VLUs") have been installed in more than 2.5 million vehicles, and can be tracked nationwide by 2,000 police tracking units and 125 base stations. Additionally, LoJack offers an early response system, which is monitored by LoJack's uplink receivers located in the base station towers.

To date, LoJack's system has assisted in the recovery of more than 70,000 vehicles, worth an estimated total value of over $1,000,000,000. On many occasions when police recover a LoJack-equipped vehicle, they also recover other stolen vehicles and vehicle parts that are present. The police have found the SVRS technology to be useful in solving other criminal activity and they have achieved an arrest rate of car thieves of more than twenty percent. LoJack systems also are in place in many other countries, including the United Kingdom, South Africa, Korea, China, Poland, Russia, Mexico, Argentina, and Colombia.

### II. A Fourteen Year Transition Period Serves the Public Interest.

#### A. Overview

LoJack is the only SVRS provider in the United States, and the wideband equipment used in LoJack's systems at present is incompatible with narrowband operations. Accordingly, the principal factors affecting the period needed to convert

SVRS from a wideband service to a narrowband services are: (1) the time that LoJack requires to develop, test, manufacture, and install narrowband equipment; and (2) the life span of the wideband equipment that police departments and consumers have purchased. For reasons that are discussed below, this conversion process will take a minimum of fourteen years.

The Commission has asked whether the January 1, 2018, transition date it already has adopted for the Public Safety Radio Pool would be an appropriate transition date for SVRS as well.[4] Although this time frame is approximately the right one, LoJack notes that the appropriate end date for the transition period is greatly affected by when the transition period commences. Product development cannot begin in earnest until the Commission has resolved the issues raised in the *NPRM* and the terms of the narrowband requirements, assuming they are adopted, are known.

Rather than having the end of the transition period tied to a date certain, therefore, LoJack proposes that the Commission establish a transition period having a fixed length that commences with the effective date of the narrowband SVRS rules that it adopts in this proceeding. LoJack suggests a fourteen year transition period, which will give it four years to develop and deploy a narrowband system and ten years for police departments and consumers relying on the installed base of wideband equipment to continue to receive service once the narrowband system is deployed.

### B. Four Years Are Needed to Design, Test, Manufacture, and Install a Narrowband System.

In the *NPRM*, the Commission requested comment on the availability of narrowband SVRS equipment.[5] No such equipment is available today for use in the United States.

---

[4] *NPRM*, ¶ 45.
[5] *Id.*

The LoJack system is comprised of four types of equipment: VLUs located in vehicles, police tracking computers located in police vehicles, 125 base stations located nationwide, and uplink receivers used for LoJack's early warning system. LoJack also employs a considerable amount of software to run the system. At present, none of these hardware and software components of the LoJack system is suitable for narrowband operations.

In order to implement a narrowband system, therefore, LoJack will need to redesign and redeploy its entire RF infrastructure. As part of this process, LoJack technicians and field engineers will have to travel throughout the country to install equipment that will replace all 2,000 police tracking computers, 125 base stations and 125 uplink receivers. Moreover, because there are over 2.5 million wideband units that already have been installed in vehicles, and consumers and law enforcement agencies will continue to rely on these units, LoJack's redesigned system must be capable, during the transition period, of operating in a wideband mode and a narrowband mode simultaneously. In essence, LoJack will be operating two full side-by-side systems, one wideband and one narrowband, during the transition period. LoJack estimates that it will take a minimum of four years to design, test, manufacture, and install the new software and equipment that would be needed to make narrowband SVRS operations possible.[6]

Although LoJack is prepared, in the interest of spectrum efficiency, to make the commitment needed to implement a narrowband plan, the Commission should be under no misimpression as to the scope of the undertaking or as to its impact. In addition to the time and money that LoJack will need to devote to developing and deploying narrowband equipment, changing from wideband to narrowband operations

[6] Although LoJack operates narrowband systems in Europe, these systems are incompatible with the company's U.S. operations. They operate on a different frequency, and have a different bandwidth and timing cycle, than what the Commission allows under Section 90.20(e)(6), and they are based on different software protocols. The European systems also are incapable of providing the dual wideband/narrowband operations that LoJack will need during the U.S. transition period.

will directly affect SVRS performance. In particular, reducing the bandwidth of the SVRS frequency will reduce the range of both the SVRS base stations and the police tracking units.

### C. Ten Years Are Needed for Police and Consumers to Transition to Narrowband Equipment.

In the *NPRM*, the Commission recognized that there has been a "significant investment in SVRS by the general public" and that "SVRS equipment has been deployed by numerous law enforcement agencies."[7] Given these circumstances, it is only fair that a transition period be established during which consumers and law enforcement agencies will be allowed to continue using their wideband SVRS equipment. To help it gauge what an appropriate transition period would be, the Commission requested information concerning the "the expected life cycle of existing SVRS equipment."[8]

LoJack's SVRS equipment has a life cycle on the order of fifteen years. The vehicles in which LoJack VLUs are installed, however, are on the road for an estimated period of approximately 10 years. It should also be noted that many older vehicles are operated in areas where auto theft rates are higher, and thus are more in need of LoJack's services. In addition to the initial four years required for narrowband product development and installation, therefore, LoJack needs a transition period of at least ten years in order to continue serving the bulk of its wideband customers following the initiation of a narrowband system. Accordingly, the transition period from start to finish, once the rules requiring narrowband SVRS operations become effective, should be at least fourteen years.

---

[7] *NPRM*, ¶ 45.
[8] *Id.*

### D. Compatibility with Wideband and Narrowband Federal Users.

In the *NPRM*, the Commission raises the possibility of interference between SVRS and federal systems. The Commission's concern, as LoJack understands it, is twofold: first, narrowband federal systems might interfere with wideband SVRS operations during the SVRS transition period because the federal systems would be "only 12.5 kHz away from the SVRS center frequency,"[9] and second, wideband federal systems might interfere with narrowband SVRS operations, because "some Federal frequencies will continue to operate on wideband channels for the indefinite future."[10]

With respect to the first issue, LoJack agrees that licensing narrowband federal users on channels adjacent to 173.075 MHz (*i.e.*, the SVRS center frequency) before the SVRS transition is complete would interfere with legacy wideband SVRS operations. LoJack will not be able to continue serving its wideband customers during the transition period if there are federal users operating on 173.0625 MHz and 173.0875 MHz. It is essential, therefore, that the SVRS and federal transition periods be coordinated so that narrowband federal users are not licensed within 12.5 kHz of 173.075 MHz until wideband SVRS operations have ceased.

With respect to the second issue, LoJack has no objection to federal users continuing to operate on wideband channels after SVRS has converted to narrowband operations. As long as the adjacent narrowband federal users remain subject to reasonable limits on power and out of band emissions, LoJack's narrowband system will be capable of co-existing with those adjacent users.[11]

---

[9] *Id.*

[10] *Id.* ¶ 46.

[11] To the extent that the Commission also is asking whether SVRS transmissions might interfere with federal users, there is no cause for concern. The LoJack system has proven that it not only works effectively but also does not generate interference from either base or mobile sites. In the fifteen years since the Commission adopted an SVRS allocation, there has not been a single instance in which a federal government user was adversely affected by the operation of the LoJack SVRS.

## CONCLUSION

LoJack will need to expend much time and money, and bear significant opportunity costs, to rebuild its SVRS to transition from wideband to narrowband operations. If the Commission adopts narrowband SVRS rules in this proceeding, as an initial matter LoJack will have to devote several years to developing, testing, manufacturing and installing new narrowband technologies, an effort requiring time and resources that LoJack otherwise could apply to developing other products and services. Once new systems have been installed, LoJack will have to continue serving its wideband customers during a transition period while at the same time providing service to customers relying on the installed base of narrowband equipment. To ensure adequate time for these measures, and for the reasons stated above, the Commission should, at a minimum, provide for a fourteen year transition period beginning with the effective date of the rule requiring that Section 90.20(e)(6) users transition from wideband operations to narrowband operations.

Respectfully submitted,

LOJACK CORPORATION

By: /s/Joseph A. Godles
Henry Goldberg
Joseph A. Godles
Laura Stefani

GOLDBERG, GODLES, WIENER & WRIGHT
1229 Nineteenth Street, N.W.
Washington, D.C. 20036
(202) 429-4900

Its Attorneys

September 2, 2004